The Vegan Diet: An Environmental Upgrade

Sustainability

Land Required to Feed One Person a Year:

- Vegan: 1/6th acre
- Meat Eater: 18x as much as a vegan

A person who follows a vegan diet produces the equivalent of 50% less CO_2, uses 1/11th of the oil, and use 1/18th of the land a meat eater uses.

Each day, a person who eats a vegan diet saves 1,100 gallons of water, 45 pounds of grain, 30 sq ft of forested land, and one animal's life.

Crop (per kilogram)	Liters of water used
Corn	900
Potato	500-1,500
Soybeans	1,100-2,000
Beef	15,000-70,000
Chicken	3,500-5,700
Eggs	3,300

Economics

In a study published in the *Proceedings of the National Academy of Sciences*, Marco Springmann and his colleagues at the University of Oxford conservatively estimate that if people continue to follow current trends of meat consumption, it could cost the U.S. between $197 billion and $289 billion each year—and the global economy up to $1.6 trillion—by 2050.

The U.S could save upwards of $180 billion if recommended guidelines were followed, and upwards of $250 billion if animal products were eliminated altogether, more than China, or all of the EU countries combined.

Springmann and his team made another estimate, using a somewhat less intuitive measure called "value of a statistical life," that put the savings from not eating meat in the neighborhood of $2 trillion to $3 trillion in the U.S., and $20 trillion to $30 trillion worldwide.

Projected annual savings in 2050, in billions of U.S. dollars

	Direct Healthcare Savings	Indirect Healthcare Savings	Environ. Benefits	Total Savings
Everyone followed diet recs.	482.4	252.3	234.1	968.8
Everyone went Vegetarian	622.8	350.5	510.6	1483.8
Everyone went Vegan	684.4	382.6	569.5	1636.5

Policy

The U.S. in particular is known to have a heavy reliance on meat and dairy. Legislature will always support the industries that dominate, and the meat and dairy markets are no exception. 30% of greenhouse gases come from livestock. The growing demand for animal agriculture is expected to be a major contributor to a roughly 80% increase in global greenhouse gas emissions from the agricultural sector. This means that animal agriculture must be a central element of our policy makers' efforts to mitigate climate change.

Other Considerations

- If the whole world suddenly went vegan, the current environmental issues would not just vanish.
- The problem is with the growing population, massive amounts of food would still need to be industrially produced.
- In *The Omnivore's Dilemma*, Michael Pollan explores the industrial production of corn, a process that would still be happening in order to feed everyone a plant based diet.
- Although environmental issues wouldn't be solved, mass producing crops in order to feed our ever growing population is considerably more sustainable than mass producing crops to feed to livestock.

SOURCES:

United States Department of Agriculture, 2017.

Livestock Exchange, Livestock and Climate Change, 2011.

Cattle Ranching's Impact on the Rainforest, 2012.

Earth Save, 2015.

The Omnivore's Dilemma, Michael Pollan, 2006.

The Atlantic/University of Oxford, Springmann et al., 2016.

Harvard Environmental Law Review, 2015.